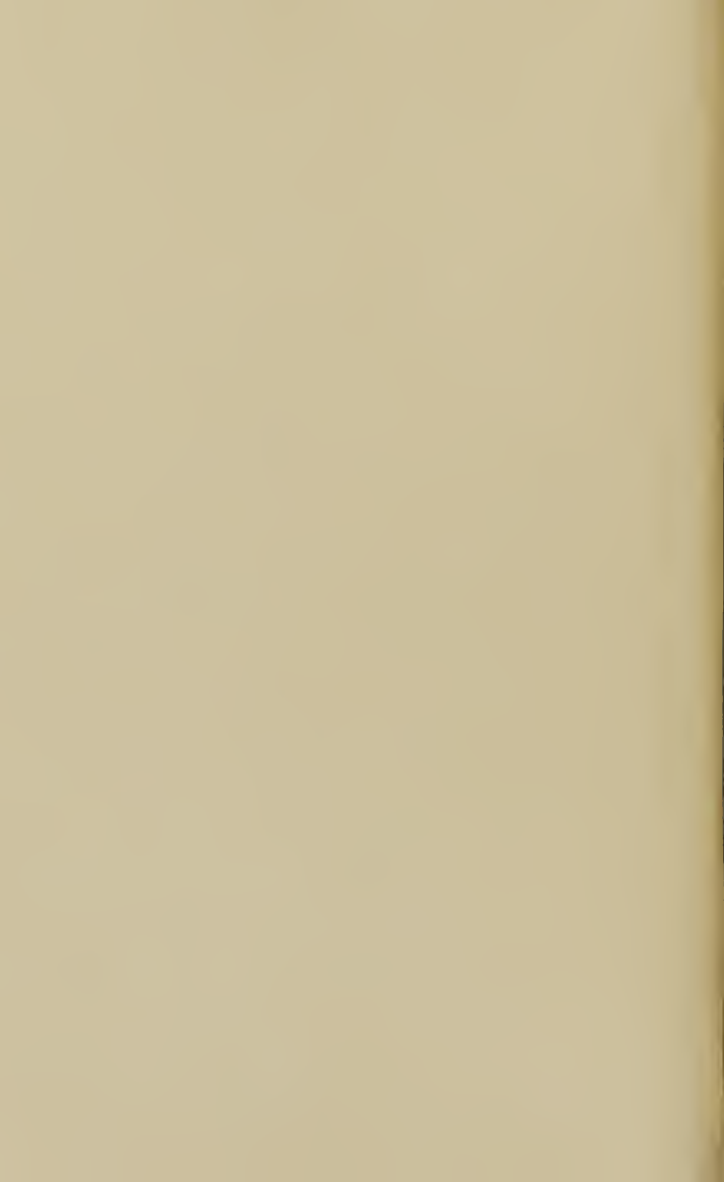


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A N
INAUGURAL DISSERTATION
ON THE
FUNCTION
OF
MENSTRUATION.

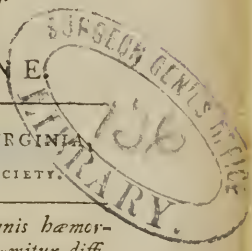
SUBMITTED TO THE EXAMINATION OF
THE REV. JOHN EWING, S. T. P. PROVOST,
THE
TRUSTEES AND MEDICAL PROFESSORS
OF THE
UNIVERSITY OF PENNSYLVANIA,
ON THE 21ST DAY OF MAY, 1795,
FOR THE DEGREE OF
DOCTOR OF MEDICINE.

By CHARLES EVERETT, OF VIRGINIA,
MEMBER OF THE PHILADELPHIA MEDICAL SOCIETY.

Quod, vero CAUSSAS periodicæ hujus et perennis hæmorrhagiæ attinet, tantis earum indago adhuc premittitur difficultatibus, ut et hec non nisi probabilia sequi, nec ultra id quam quod verisimile occurrerit, progredi liceat.

Blumenbach, Institutiones Physiologicæ,
Sect. xlii. de Menstruis.

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TO GEORGE GILMER, M. D.

OF ALBEMARLE, VIRGINIA.

S I R,

DID I suppose, that in America, names could stamp a value upon a work, independent of what the author was entitled to, or the intrinsic worth of his production might safely claim, I could have prefixed few, with greater expectations, than yours ; and I may add none, for which I have a higher respect, or would be more cautious in using, in all cases of this kind, where the merit of the performance must at least be doubtful. But as the fashion of borrowing eclat from the reputation of others, like the reverence once paid to crowns and mitres, is departing with the prejudice and ignorance which engendered it, I feel no hesitation in offering you the first fruits of that study which originated under

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your care, and has thus favoured me with an opportunity of publicly acknowledging my thanks, as well as the grateful remembrance I entertain of the repeated attentions received from your family. In dedicating the following sheets to you, permit me to call it a DEDICATION OF GRATITUDE—The wish of a Pupil to testify his regard for a Preceptor, whom he has every reason to respect and admire, and from whose approbation and instruction he has always derived both pleasure and information.

Whatever share, Sir, of medical information I may possess, or advantage I may derive therefrom, the source from whence they sprung, cannot escape my recollection ; nor shall I fail to accompany your progress through life with my best wishes for your health, prosperity, and future happiness.

CHARLES EVERETT.

INTRODUCTION.

THE established rules of this University demand of the candidate for medical honours, some specimen of his talents or industry—In obedience to these, I submit to the examination of the medical professors an Inaugural Dissertation.

For the imperfections of this dissertation, I claim the indulgence of the medical faculty, and of the public.—An infirm state of health, and want of time, have prevented me from devoting to the subject that labour and attention which it well deserved.

The subject I have chosen for investigation is that of the MENSES, or periodical discharge of blood from the uterus of the human female.

This is one of the most curious and interesting subjects in the great science of Physiology; it has employed the pens of some of the most celebrated philosophers and physi-

cians, both of ancient and modern times—
It still continues to solicit the attention of
writers, and it never can become uninterest-
ing in countries enlightened by science.

In this dissertation, I shall confine myself
principally to an examination of what I deem
to be the most probable theory of menstrua-
tion, slightly touching on its peculiarity and
design in the human female ; I shall also ad-
vert to the causes of its continuation, and
healthy termination, without offering any
observations on the anomalous appearances,
or morbid inclinations, of this curious func-
tion.

O N

MENSTRUATION.

THE function of menstruation is thought to be peculiar to the human species. This opinion, however, ought not to be received but with caution, until the progress of science has shed more light than has hitherto been thrown on the subject.—The Physiology of Animals is still in its infant state, nor has their structure or their functions been examined with sufficient attention—It therefore becomes us to suspend a decision on this question as yet imperfectly examined—In the mean while, I shall take notice of some of the facts which have been related by philosophers and travellers, to prove that other animals besides the human female, are subject to a periodical discharge of blood from their uterus, or vagina.

Aristotle has asserted that all the warm-blooded quadrupeds have, at stated periods, a discharge of blood from their genitals—The Greek philosopher, however, allows that these animals menstruate more sparingly than the female of the human kind.

Some of the ancient, as well as modern, writers, have asserted that the following animals menstruate, viz. The Ape, the Cow, the Deer, the Mare, the Whale; and even the Skate, the Mullet, and the Tench.—The celebrated naturalist M. de Buffon, has particularly mentioned some of the simiæ, or apes, as being subject to the law of menstruation*.

Of late, Dr. Sparrman pretends to have discovered, that a little quadruped (the *Cavia Capensis* of the late Naturalists) inhabiting the Cape of Good Hope, is subject to this periodical discharge of blood†.

The ingenious Professor Blumenbach‡ informs us, that he has kept several species of female apes for several years, and that he has

* Histoire Naturelle.

† Voyage to the Cape of Good Hope.

‡ Institutiones Physiologicæ, Sect. xlii. de menstruis.

found that they were entirely destitute of any regular or periodical uterine discharge of this kind.

Upon the whole, I am of opinion, that it still remains to be proved, whether a periodical uterine discharge of blood is or is not peculiar to the human female. If other animals are really subject to this function, I think we are to look for it in the mammalia, or viviparous animals, that are furnished with mammæ or teats, and which are comprehended under the generic name of *fimiæ*.—As to the opinions of Helwig, and some other writers, that even some species of fishes menstruate, I cannot think it worthy of a serious attention.

Whether menstruation is or is not a *lex generis humani*, or law of the human species or kind, exclusively appertaining to it, there seems to be good reason for asserting, that the females of all nations, and all climes, are subject to this periodical discharge.

It is true, indeed, that some writers* have amused us with stories concerning whole na-

* Among others, Tonti, Lafiteau, and Johnston.

tions of women who never menstruate ; both in the cold and warm climates of the globe. But that philosophy, which examines nature with caution and judgment, has demonstrated, that these stories are destitute of foundation.

Menstruation, then, may be considered as one of the essential characteristics of the human *kind*.—It is not, however, absolutely necessary to the existence of the individual ; for authors have recorded not a few instances of women, who have lived a long life without having ever menstruated.—I do not, however, intend to devote my attention to the consideration of those singular cases—they doubtless depend on different and peculiar causes, with *all* of which we are, perhaps, not acquainted. The celebrated Morgagni, however, has shewn that in some cases of this kind, the uterus, which is the fountain of the menstrual flux, has been entirely wanting*.

I have neither time nor inclination to take a view, and to examine the respective merits

* De causis et sedibus morborum.

and demerits, of all the theories that have been published to the world, to account for this curious function of the human female—it will be sufficient barely to hint at some of them, as we pass over their enumeration.

All the theories on this subject may be reduced to four or five, viz. The influence of the moon—an internal fermentation--plethora both partial and general—and the impressible influence of venereal desires—The first as being contradicted by the experience of every individual, and the second as being incompatible with the health or circulation of the fluids, have long since ceased to be plausible.

I shall chiefly attend to the doctrines of conformation and plethora; though not without previously observing, that whatever share the venereal orgasm (to use the language of some medical writers) may have in the production of menstruation, such an orgasm or exertion does not appear to me adequate to explain the various phenomena of the function now under consideration. Physiology teaches us, that the exility and sensibility of the organs of the body are necessary to the

operation of every stimulus—In some instances we find those of the uterine system greatly impaired or diseased; nay, sometimes their powers appear almost destroyed, as in Paraphlegia, &c. and yet the uterine discharges suffer very little derangement:—We also find those discharges return, after long cessations, when the passions are obedient to old age, and when the strength of venereal impressions has vanished from the torpid system—On the contrary, we sometimes observe the cessation of the menses long before the business of generation has ceased to be attended with its peculiar pleasures; a proof, I think, that the stimulus of lascivious ideas, or, in other words, animal gratification, cannot be the sole cause of the continuation, or final termination, of this periodical discharge; moreover, we also observe the menses in almost all the cases of mania; and in this derangement of the intellects, no venereal impulse, no energy arising from former pleasures, can well be supposed to take place—I conclude, therefore, that the theory of peculiar conformation united with plethora, can receive but little injury from venereal

orgasm.—The doctrine of Plethora, although it possesses many advantages, is nevertheless far from being free from all objections—The supporters of this doctrine have divided themselves into two parties, which may not improperly be called Universalists and Partialists; the former contending for the existence of general, and the latter for that of partial, Plethora, as the cause of menstruation.

In attending to the different appearances of the menses, in different habits, and under different circumstances, we for the most part observe a plethoric state of the system prevalent in all or most of those periods which are most natural to each individual.

The consequences attending an interruption of those periods, by translation and effusion in some other part, together with the effects of any depleting means, near or about those periods, seem to give considerable strength to the opinion—Since, then, the doctrine of plethora seems to furnish the most natural and the most easy explanation of most of the phenomena of the menstrual discharge, I can see no reason why a general plethora.

may not be attended with a partial congestion or determination of blood to the uterus, and why a topical congestion, when barred from its usual outlets, may not be the cause of a general fulness.

In enquiring, however, into this plethora as the exciting cause of the menstrual discharge, we shall find it liable to great modification, from climate, from situation, and from the various incidents of life; the first in retarding or hurrying its eruption, the second in supporting and maintaining its regularity, and the third by inducing disease, causing various errors as to time, quantity and duration.

By Plethora, physicians mean that state of the system, containing a greater quantity of fluids than is sufficient for the demands of the body, or proper for the purposes of the animalizing powers; particularly a superabundance in the contents of the sanguiferous vessels, in either actual increase of fluids, or constriction of the solids conveying them: It is this absolute increase of quantity which appears to be present about the time when

the menses first make their appearance—But it is not yet decided by what law or principle of the female system this superabundant quantity of fluids is at this time generated—The prevalence of arterial plethora over that of venous, is known to take place from infancy to that period of life at which the increase of the body ceases, and a kind of equilibrium is established in all its parts—At this period our machine stands balanced on a point of time, which constitutes the vigour and bloom of human life. We are so constructed by nature, that every part of the system appears to possess a strength and power proportionate to our capacities of using them—(I speak entirely of the healthy and well conditioned body)—It is remarkable, that the completion of those parts which are most essential to the present demands of the animal, and the best adapted to his instinctive and rational powers of using them, first take place; whilst, on the contrary, other organs that are destined for future purposes, and of which the present state of the system is unconscious, remain nearly in their embryo-weakness, until the gradual progress of animalization evolves them, and

the natural laws of the œconomy demand them—The organs of generation appear to be of this kind ; and indeed the peculiarity of the sexes is never so prominently impressed upon our observation, until those organs receive their completion, and the proper acme of the system is established—This evolution, then, of the general system, we observe to take place at different times, but in regular succession, influenced perhaps by the strength and density of the different vessels dependent on original conformation and stamina, regulating, as it were, the plethoric impulse—It is in this way that we can explain why the superior parts of the body progress faster, and how a successive completion takes place in the rest—It is here likewise that the combination of plethora seems evidently active, first in producing the bulky head in childhood, when, from its topical influence, the Schneiderian membrane of the nose is often ruptured, and an Epistaxis or discharge of blood from the nose, if not peculiar, becomes at least much more common, to that stage of life—Secondly, when, by the increased bulk of those parts, the plethoric impulse is diverted from the

cranium to the thorax, hæmoptesis or a discharge of blood from the lungs succeeds epistaxis, and becomes chiefly incidental to the juvenile state of life—Thirdly, when most other hæmorrhages have ceased, a determination to the pelvis takes place, producing the menses in women, and the hæmorrhoids in men; for although this last may be a morbid evacuation, it is nevertheless hardly ever observable until about the time of puberty or middle age, when the determination to the pelvis is supposed to have taken place.

That a general fulness of the sanguiferous system is actually present about the time of menstruation, I infer from the consequences which result from a different habit. We observe that weak and emaciated females arrive very late, and sometimes never, at that condition of the body when aptitude and appetite impel them to venereal enjoyments, and not until symptoms of plethora are evident—Besides, without admitting the presence of general plethora sufficient to distend the neighbouring parts of the system, and to overcome the resistance made by the imper-

fect state of the genital organs, I cannot see how the Partialists, as I may call them, can procure even topical congestion, unless they imagine it is brought about by inflammatory stricture, which would undoubtedly defeat the intention of the whole ; and if the transmission of the blood through the several parts which were nearly complete, was as easy or similar to that of a meagre or implethoric state of the system ; what reason have we to suppose it would deviate from passages already clear and unimpeded, to search out those innumerable convolutions and ramifications which we find in the organs of generation of both sexes ?

We cannot suppose that such an effect might flow from a superior *vis impellens* in those vessels, arising from more perfect evolution ; because this power, in a certain degree, is dependent on distention, and distention (by which I mean healthy distention) is inconsistent with a scarcity of fluids in the system of blood-vessels.—Thus I think it appears, that without a general plethora, the organs of generation would probably remain imperfect,

and a partial congestion could scarcely exist—and though it may sometimes seem to take place, independent of any co-operation of the system, yet those appearances are never observable until after the menses have assumed their natural destination, and their frequent discharge have rendered those vessels more yielding and dilatible, and of course more ready to receive and dispose of any surcharge of blood that may from time to time happen to encumber the system. But let us suppose, for a moment, that by some hitherto inexplicable law in the human œconomy, that a partial congestion should take place in the commencement of menstruation, unconnected with a general fulness of the body—May it not also be supposed, that less resistance would be found in the neighbouring anastomosing branches of the Iliacs, the diameters of which were already sufficiently enlarged by previous evolution, than in the undistended tubes which terminate in the *fundus uteri*? Moreover, when menstruation has taken place in any individual, and disease, of whatever kind, obstructs this discharge through its natural channels, does not a transit

to other parts strengthen the conjecture, and at the same time confirm the doctrine of universal plethora, attended with topical determination, by proportionate hæmorrhages, taking place in the most distant parts of the animal body? As, in cases of obstructions of this kind have often been observed, and blood from the eyes, the nose, the ears, the roots of the nails, the lungs, the pores of the skin*, &c. has been known to compensate its repulsion from its usual courses, and preserve that balance so essential to the health of the system.—Thus, then, when general plethora, accompanied with its healthy impulse, presses on the unevolved organs of generation, leaving perhaps no other outlets of the system so likely to yield to its influence, the irritability of those parts becomes awakened, thereby soliciting a greater afflux of fluids, which continues to accumulate in the vessels of the uterus until, by the joint effort of plethora and distention, the long obstructed passages of twelve or fourteen years, are at length unlocked.

* Vide Haller's *Elementa Physiologiæ Corporis Humani*, Tom. VII. pa. 157, 8, 9, & 160.

I infer then, that a general plethora, co-operating with, or rather terminating in, a partial congestion, from whatever law in the system it may arise, is a principal agent in exciting the menstrual discharge. The united efforts of this plethora and congestion continually distend the different organs of the body, until those organs have acquired sufficient strength to resist the plethoric impulse, and to determine its plastic power to parts that are more capable of yielding to its impetus. A period then must arrive, when the genital system will receive its completing influence, and act in unison with the other powers of the animal body, when new impressions will be excited, and new desires will prompt to new pleasures. Possibly there may be some connection between the late evolution of those organs and that period when reason and judgment are more mature, and better capable of managing that gust of passions which are incident to the irritable age of puberty.

When, therefore, the plethoric state, of which I have been speaking, comes to be generally resisted by the increased bulk and

power of parts that are more complete, it may easily be conceived how a determination to the vessels of generation may ensue, both by their dependent situation, membranous connection, and the want of that extension which is necessary to occupy their natural limits, and hold their weight in animal balance. The consequence of this determination in the human female, is a turgescency throughout the whole system of the uterus; new sensations, evolving new desires, are awakened, and hurry the most impatient sensibility through the whole region of the pelvis. The ova, emerging from their confusion, overtop their *calices*, distend and irritate the ovaria, and impel the blood into the anastomosing branches of the uterus. A revolution appears to riot in the system, and to weave a texture both of torturing and pleasing sensations. Perhaps here the venereal orgasm may co-operate, and, from the extreme excitability of the parts and novelty of the stimuli, encumber the mind with a chaos of delusion and fanciful extravagance, which are frequently so strikingly characteristic of the period to which we allude.

This orgasm may re-act, as it were, upon the exciting cause, and increase the tumult and disorder already present.

The vessels of the uterus become distended, their convolutions are straitened, their extremities are exposed, and being subject to the direct action of the impelling power, begin at first to discharge the thinner parts of their contents, the operating causes still continuing to act, and their extremities still becoming more enlarged, an hæmorrhagy at last takes place.

But upon the principle of evolution, plethora and extension, as they appear to have a similar routine in both the sexes, I may perhaps be asked, why does not a similar evacuation take place in the male? Although, at the age of puberty, a plethoric distention may take place in the genital organs of the male, and this seems very probable from the analogous tumescence of the mammæ, which is observable in both male and female; still this determination may be subject to the peculiar operation of each, and governed by the peculiar organization of their different parts.

The different ramifications of vessels, their different terminations, and perhaps also, their different degrees of density and firmness, connected with some relative peculiarity in the general system, may be sufficient to preclude any hæmorrhagy of this kind in the male. Moreover it is not altogether improbable that the want of ovaria may diminish the quantity of this determination in the male, whilst the elaboration of the semen may possibly dispose of the surplus.

May not this more sparing determination, and the continual absorption of a fluid so highly stimulating as the semen, assist us in explaining the larger bulk, the larger growth, and consequent superiority of strength, which are generally observed in the male? And does not this theory appear to be confirmed in the athletic bodies and masculine features of those women who menstruate but little?

Perhaps also the labours of parturition incumbent on all females, and tending to debilitate, may embrace the inferiority of those numerous species of female animals which it is supposed do not menstruate: or perhaps the most decisive answer to a question of this

Kind may be, that the male, from his destination, has no use for such functions, nor could they have any relative connection with those important consequences for which nature evidently designed them in the female.

But if the menstrual evacuation be designed for, or is essential to, propagation, it may be further asked, why are not the females of other animals subject to a similar discharge? And why should the existence of the race of Men alone, in all countries, depend upon a peculiarity of this sort?

To these questions, I would in the first place answer, by asking in my turn, why the existence of men should depend upon the mode that is peculiar to any other animal? Or why has not nature formed for man, as she has done for the frog, a stagnant lake, in which the former, like the latter, might, through the medium of the water*, impregnate the *ova* many days after their exclusion from the uterus? Doubtless because she found that her great intentions were much better

* See Experiments of Abbe Spallanzani.

answered by the mode she chose. Indeed she seems to have decreed that some of the functions of the animal œconomy should be very differently performed in different animals: For instance, that the brute creation should not constantly possess the power of procreation, which seems to be given to the “human race in consequence of the gift of reason*.” But I have already observed, in a former part of this Dissertation, that it is asserted by many eminent naturalists, that the menstrual discharge is not peculiar to the human species. Let us suppose, however, that it is exclusively confined to the human female, still it must be allowed, that certain species of animals have a peculiar evacuation from their uterus or vagina, as often as they are disposed to venereal enjoyments. This evacuation also mostly happens at that period when plethora and distention are evident? How far the more stimulant diet, and other habits of our species, together with the more delicate and slender conformation of our female, may co-operate in their more copious discharges, I shall not take upon me to deter-

* See Dr. Spense.

mine. It seems evident, however, that the uterus in the brute being almost horizontal with respect to the body, and in the human female approaching nearly to a perpendicular line, the latter must admit of the operating causes, with much more facility than that of the former, and of course an accumulation of blood must more frequently be the consequence in the one than in the other, independent of any animal influence.

It may be objected, that if plethora were the prelude to the menstrual discharge, that the loss of a few ounces of blood would not be sufficient to remove the inconveniences of its general operation. It may likewise be objected, that women menstruate a short time after parturition, when they cannot be supposed to be in a plethoric state.

In answer to the first of these objections, I would suggest the known advantages of critical evacuations, in the miliary fever, the inflammatory small pox, and in all congestions of the head: these are evidently relieved, and sometimes instantaneously cease, by a trifling effusion of blood from the nose.

With respect to the other objection, I would remark, that the sanguificating principle, in all healthy animals, appears to exist in such a manner that its powers shall be proportioned, in a certain degree, to the extraordinary demands of the system.

Women, during gestation, are accustomed to prepare more blood than is necessary for their own nourishment. During this period, the vessels of the uterus become greatly distended and enlarged : the habit of nine months, having determined a quantity of fluids to those parts, equal to the enlarged diameters of their vessels, and the nourishment both of mother and foetus requiring greater exertions in this sanguificating principle, a plethora, and a subsequent evacuation, become the necessary consequences of delivery.

This, however, will disappear, as it gradually increases, when the augmented bulk and nourishment of the foetus, no longer solicit it, and the gradual collapse of the vessels begins to restrain it.

What may have been the intention of this preparation of a greater quantity of blood than is necessary for the female's own nourishment, may, perhaps, admit of some speculative controversy; but its ultimate design seems to have been the nourishment of the foetus, and the *sine qua non* of propagation, and plethora the immediate efficient cause of the discharge*. Possibly its determination to the uterus, may embrace other advantages; such as, first, to indicate that condition of the ova which is most proper for fecundation; for about those periods, impregnation is most apt to succeed: secondly, to keep the vessels in a proper state for receiving and retaining the conception, when it has issued from the fallopian tube, and to afford it necessary food during its detention: and, lastly, may it not serve to facilitate the powers of absorption, and maintain an aptitude for procreation, by lubricating the genital tube, and washing off all impurities? May it not also increase the sensibility of those parts, by moistening and relaxing their nervous terminations? Perhaps it may also serve to keep awake those necessary

* Dr. Spense.

ensions, which are liable to be exhausted by that disposition in our species to gratify, rarely to be met with in other animals; or, as an ingenious author* has observed, for the purposes of conception and its consequence, there is formed in the general system a surcharge of blood, which is determined to the genital organs, in the same manner as other things are determined to other outlets.

I shall now briefly touch on some of the apparent causes of the continuation of the menstrual discharge.

Menstruation having once taken place, and the blood having once found a passage to the uterus, continues its periodical course, in well conditioned habits, till about the age of forty-five or fifty, at which time this function generally ceases.

But how this periodical return and healthy regularity are continued, has been a subject of much speculation, and one upon which much hypothetical reasoning has been spent. The most probable opinion appears to me to be peculiar conformation, and the power of

* See Speculations on Impregnation, by a Physician.

habit known to be so influential in the animal system : to these I would add the continual progress of the *ova*, and the pendent termination of the vessels of the uterus. Perhaps an association of ideas and motion, as an ingenious professor supposes*, may be also an auxiliary agent in this business.

That habit may operate, seems evident from the analogy of various other hæmorrhages, both natural and artificial, in the human body. Thus we observe that the practice of blood-letting in the human, as well as in the brute, system, tends to increase the action of those powers employed in the formation of blood ; and may, in some cases, even render its repetition necessary. May not also the ovaria, even independently of uterine vascularity and disposition, contribute some part by the progress of their *ova* to maturity ? The periodical numbers appear likewise in some measure regulated by the quantity of blood repaired, and employed in dilating the vessels of the uterus. And may not this quantity in the healthy female (for we sel-

* Dr. Rush in his Lectures.

dom find it the same at different times) indicate the state of the *ova*, and explain the reason why the last menstruation, before the female becomes impregnated, is generally more copious than most of the former? And the reason why many menstruations happen, without impregnation, is perhaps owing, together with the influence of peculiar determination, to some derangement in the feminal inhalers, and also to that state of the ovum, tending to the point, which admits its perfect developement. May not incomplete menstruation (for, as I before observed, the quantity is seldom stationary, varying from four to fourteen ounces) and sometimes its total suspension for many months, without any apparent cause, or consequent derangement in the animal functions, point out a less influential state of the ovaria, perhaps arising from the imperfection of their *ova*? And does not its return to the uterus some short time after parturition, in spite of every effort to divert it (as keeping up the determination to the breast) evidence a capacity for fecundation? While its suspension for years, and then recurring, at the same time that it explains

the interval which sometimes happens in family births, may serve to shew the dependence of this evacuation on certain states of the ovarian system.

Together with those causes, perhaps elementary influence may accidentally co-operate, especially when happening at those periods which may be peculiar to that state in each individual; that the primary effect of this influence on our atmosphere, may have some relative operation on menstruation, I infer from the authority and writings of Dr. Mead*, who remarked a peculiar disposition in the body to hæmorrhage, when the pressure of the atmosphere was lightest; also upon the credit of Dr. Kirkland†, who informs us of a clergyman in England, who could tell with certainty the hour of delivery (after symptoms came on) even in the most lingering cases, by his observations on the moon.

The uterus having once thrown off the distending blood, a temporary collapse or con-

* See his celebrated work, *de Imperio Solis et Lunæ in Corpore Humano*.

† See his *Med. Surgery*.

traction of its vessels ensues; but in a short time the loss is again repaired, and the vessels, from frequent repletion, become more easily distended; the same causes operate, and the same effects follow; the blood is more or less collected in the uterus; its vessels become turgid, and at length give out a part of their contents. But if it should be asked, why menstruation recurs oftener than any other periodical hæmorrhage? Should not the time when, and the situation in which, other discharges take place in the body, as epistaxis in the nose, and hæmoptesis in the lungs, both happening in the earlier part of life, before the system has acquired sufficient strength to resist; both also admitting of much less mechanical influence, independently of any animal exertion: should not a different conformation of parts, together with the peculiar powers of the ovaria already alluded to, be deemed a satisfactory answer;--I must reply in the language of the great Haller*, and say, I do not suppose myself more bound to answer, than if you were to ask me why the human foetus remains nine months in utero, the

* See Element. Physiol.

mare's eleven, and the sheep's four? Or why in seven weeks after the blossom, the cherry is ripe, the apple in four months, and the chefnut in five?

We come now to that period of life when a retrograde order appears to take place in the system: the body decreases, and, together with the mind, calmly approaches that autumn which neither enjoys or feels the irritable seasons of youth; all its organs grow more insensible, and that rigidity peculiar to increasing age, begins to compress or obliterate the vessels, while plethora no longer continues to distend them; that surplus of blood of which we have already treated, seems gradually to diminish, together with the capacity for supplying it; the vessels of the uterus soon collapse, when distention no longer disturbs them; the whole viscus loses its former expansibility; while the rigidity of its fibres begins to lock up those orifices which discharge the menstrual blood; and the ovaria, from the exclusion or diminution of their contents, lose their influence; along with which, menstruation, together with the powers of procreation, ceases.

Let me now take an affectionate and respectful farewell of this University and its Medical Professors. May the one, while she continues to attract the sons of science from all parts of our growing republic, never lack the abilities and support she now enjoys; while the others, by their precepts and examples, continue to inculcate and diffuse principles, both ornamental to the man and necessary to the physician; may they never cease to merit, or fail to gain, the grateful tribute due to their services.

But to the Professor of the Practice, Dr. Kuhn, whose attentions have been no less pleasing, than his medical advice salutary, during my late indisposition, I feel myself under singular and lasting obligations. Together with my thanks, Sir, accept the gratitude and esteem of a heart truly sensible of your favours, and ever happy of an opportunity to acknowledge them.

F I N I S.

Med. Hist.

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